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53. *Ceropales tristis* Tourn., Europe.*C. tristis* Tourn., L' Ent. Gen. i, p. 39.54. *Ceropales variegata* Fabr., Europe.*Evunia variegata* Fab., Ent. Syst. Suppl. p. 241.*C. variegata* Latr., Hist. Nat. Crust. et Ins. xiii, p. 284; Lep. St. Farg. Hym. iii, p. 466, tab. 33, fig. 2.

Since the preceding paper was presented for publication, the following new species have been described :

**C. azteca** Cam., Mexico, Yucatan.*C. azteca* Cam., Biol. Centr.-Amer. Hym. ii, p. 159; tab. x, fig. 2.**C. fumipennis** Cam., Panama.*C. fumipennis* Cam., l. c. p. 160; tab. x, fig. 3.**C. chiriquensis** Cam., Panama.*C. chiriquensis* Cam., l. c. p. 160; tab. x, fig. 4.**C. apicipennis** Cam., Mexico.*C. apicipennis* Cam., l. c. p. 161; tab. x, figs. 5, 5a.**A Revision of the North American species of PHLEPSIUS.**

BY EDWARD P. VAN DUZEE.

Genus *Phlepsius* includes a series of the Jassidæ distinguished from their allies by having their elytral areoles more or less densely reticulated with slender, simple or ramose, brown lines. As a rule they are rather large in size, with stout, rather convex bodies. A head as wide as, or somewhat narrower than the pronotum. The vertex is generally obtusely angled, and from one-fifth to one-third longer on the middle than next the eye; face hexagonal in form, the edge slightly excavated below the eyes; front intermediate in form between that of *Thamnotettix* and *Athysanus*. Elytral neuration simple, like that of *Thamnotettix*, the reticulations being mere pigment lines, not nervures.

The head, pronotum and scutellum, are generally variegated, or irrorate with fulvous-brown and pale, the colors paler and the irrorations more obscure on the scutellum and anterior margin of the pronotum. Below the colors are tawny, with fuscous clouds and spots on some of the pleural and sternal pieces, and the venter is usually irrorate, with a pale median line. Tergum fuscous, with a broad, pale margin. Legs twice banded on the anterior and intermediate femora, and with all the tibiæ dotted at the base of the spines. Elytra generally whitish, clouded more or less with pale fulvous-brown or testaceous, the colors sometimes arranged in transverse bands, where the reticulations will then be segregated; ner-

vures slender, brown, marked with larger brown spots at their junction with the margin; calloused edge of the scutellum marked with five white spots, one of which is on the tip. These are the ordinary markings, modifications of which will be found in most of the species.

Structurally, this genus differs but little from *Athysanus*, and it is possible that the group, including *strobi* and *Uhleri*, should also include *Athysanus seminudus* Say, but the more typical forms have the anterior edge of the head acute, or at least well differentiated from the vertex, and approach more closely *Selenocephalus* and *Fieberiella*.

It will be noticed that the species here described fall into two well defined groups. In the smaller and more typical of these, the head is distinctly narrower than the pronotum, the vertex is convex, not depressed, the anterior edge obtuse; clypeus large, well expanded apically, with a convexly arcuated base fitting into the emarginate apex of the front. This group includes the European species and our species Nos. 15 to 18. In the larger group the head is little, if any, narrower than the pronotum, the vertex is more or less distinctly transversely depressed, usually with an acute anterior edge, and the base of the clypeus is little, if at all, arcuated. Here belong our species Nos. 2 to 14. In *P. latifrons* the vertex is extremely short and rounded. *Bythoscopus stipatus* Walk. (Homop. Brit. Mus. iii, p. 874) may pertain to this genus, but it is impossible to recognize the species from his description.

For the loan of material in this genus I am especially indebted to Mr. P. R. Uhler and Prof. Herbert Osborn, both of whom have sent me very full series from the South and West. I also wish here to express my indebtedness to M. Lucien Lethierry, of Lille, France, who very kindly supplied me with European material for comparison, and to Mr. Samuel Henshaw, of Cambridge, Mass., for studying for me the typical specimens in the Harris collection; also to my various correspondents who have favored me with the use of their material in this genus.

Genus *Phlepsius*, with but seven palæarctic species, and those of rare occurrence, forms a conspicuous member of the North American Jassid fauna. At least twenty species are known to me, of which eighteen are here described, and many more may yet be found in the southwestern States and on the Pacific coast. Many of these are closely related, and it may puzzle the student to distinguish between them. The best characters for this purpose are: the form of the facial pieces, the sculptuation of the pronotum, and the form of

the genital pieces in both sexes. The ornamentation here is quite constant for each species, and is frequently of much value in their determination.

The following synoptical table of our species is entirely artificial, but taken in connection with the accompanying figures of the genital pieces, will, it is hoped, lead to the ready determination of the species.

- Head as wide as, or wider than, the pronotum .....2.  
 Head considerably narrower than the pronotum, disc of the vertex not im-  
 pressed; clypeus large, spatulate, its base arcuated, and its apex trun-  
 cated or even excavated.....14.  
 2.—Vertex very short and sloping, confused with the front on the rounded  
 anterior edge, front very broad.....1. **latifrons.**  
 Vertex horizontal, or nearly so; generally distinctly longer on the middle  
 than next the eye, differentiated from the front by an obtuse or acute  
 edge, disc transversely impressed .....3.  
 3.—Vertex short, but little longer on the middle than next the eye, edge ob-  
 tuse .....4.  
 Vertex longer, distinctly longer on the middle than next the eye; disc de-  
 pressed, anterior edge acute or subacute.....10.  
 4.—Very small (4 mm.), fulvous; elytra fulvous-brown, closely dotted with  
 darker, and crossed by three irregular bands of small white dots.  
 2. **Uhleri.**  
 Larger; elytra reticulated, not dotted only.....5.  
 5.—Fulvous, or tinged with rufous on the pronotum; elytra fulvous, minutely  
 dotted and inscribed, crossed by a broad white band before the middle  
 and an obscurer one near the apex.....3. **strobi.**  
 Elytra not clearly transversely banded.....6.  
 6.—General color white or cinereous, sparsely inscribed.  
 4. **cinereus** and 5. **pallidus.**  
 General color fulvous, testaceous, or fuscous; elytra closely inscribed.....7.  
 7.—General color fuscous, especially in the male; elytra very closely inscribed,  
 with but one or two costal spots; in the male fulvous-brown, with a few  
 scattering white dots.....6. **fuscipennis.**  
 General color testaceous or fulvous; elytra white, more or less closely in-  
 scribed with brown and clouded with fulvous-brown.....8.  
 8.—Color testaceous, sometimes tinged with fulvous; quite uniformly irrorate  
 and inscribed.....9.  
 Head, pronotum, and scutellum fulvous-yellow, obscurely irrorate; elytra  
 white, rather closely inscribed and with about two clearer bands indi-  
 cated.....10. **fulvidorsum** var.  
 9.—Insect attenuated posteriorly by the apical narrowing of the elytra.  
 7. **irroratus** and 8. **truncatus.**  
 Insect broader behind, the elytra not narrowed apically.....9. **incisus.**  
 10.—Elytra closely dotted, not reticulated, but with some of the dots arranged  
 in irregular lines.....11. **punctiscriptus.**  
 Elytra reticulated .....11.  
 11.—Size medium (about 6 mm.) .....12.  
 Size large (7–8½ mm.), apex of the vertex usually quite strongly reflexed.....13.

- 12.—Whitish testaceous, closely irrorate, elytra rather sparsely inscribed, with two clearer transverse bands indicated.....12. **apertus**.  
 Head, pronotum and scutellum pale yellow, scarcely irrorate, elytra white, closely and evenly inscribed ..... 10. **fulvidorsum**.
- 13.—Length 7-7½ mm.; elytra scarcely narrowed apically, closely and evenly inscribed. From Eastern States.....13. **humidus**.  
 Length 8-8½ mm.; elytra distinctly narrowed apically, obliquely clouded with fuscous on the corium and coarsely and irregularly inscribed. From Western States.....14. **nebulosus**.
- 14.—Clypeus and front coalescent; insect large, closely and evenly inscribed, vertex maculated.....15. **spatulatus**.  
 Clypeus distinct from the front. ....15.
- 15.—Small (5-6 mm.); broad ovate; markings well contrasted, vertex maculated. ....16. **ovatus**.  
 Larger (7-9 mm.) and more elongated.....16.
- 16.—Head, pronotum and scutellum fulvous, irrorations obscure; elytra closely inscribed, with a white, trilobate, commissural line; cheeks punctate. ....17. **excultus**.  
 Uniformly irrorate and inscribed; elytra wanting the lobate commissural line; cheeks longitudinally wrinkled.....18. **superbus**.

### 1. **Phlepsioides latifrons** n. sp.

Size and form of *incisus*; vertex very short, hardly differentiated from the front, anterior edge rounded, front very broad. Length 7 mm.

Head nearly as wide as the pronotum; vertex short, of equal length across its whole width, length about one-seventh the width between the eyes, anterior edge very obtuse; surface sloping, scarcely depressed; front very broad, convex; length and breadth about equal, sutures nearly straight, strongly angled at the antennæ; clypeus small, quadrangular, one-half longer than broad; cheeks broad, forming a rather wide margin beyond the loræ. Pronotum short, about four times the length of the vertex, wrinkles quite distinct; apical field of the scutellum strongly rugose.

Genital characters.—Male: valve short and broad, not so long as the last ventral segment, apex obtuse; plates broad and short, three times the length of the valve, but feebly gibbous at base, curved upward at the blunt apex; sutural margins quite deeply excavated, approximated at base and apex leaving a rhomboidal opening beyond the middle (this character is perhaps accidental), spines about six, placed on the middle of the submargin, leaving the apex unarmed. Pygofers much shorter than the plates. Female: lateral angles of the last ventral segment (Pl. I, fig. 1) produced in a blunt, black tooth; sides of the included broad median notch feebly sinuated, apex of this notch acute. Pygofers short and thick, their blunt apex slightly exceeded by the oviduct.

Color pale, irrorations of the vertex and pronotum rather large and irregular, face brown, finely irrorate with pale; about seven short arcs and an indication of a median line on front, margins of the clypeus and a spot on the base of the loræ pale. Elytra marked about as in *incisus*. Wings slightly infumated.

Described from a single pair taken at Odenton, Md., and received from Mr. Uhler. The male is labeled "September 29th," the female "October 23d, pine." This species most strongly resembles *P. in-*

*cisus*, from which it may at once be distinguished by its peculiar genital characters, the short rounded vertex, scarcely differentiated from the base of the broad convex front.

## 2. *Phlepsius Uhleri* n. sp.

Form of *fulvidorsum* nearly. Small, fulvous-brown, dotted with yellow. Elytra fulvous-brown, minutely dotted with fuscous and marked with three transverse, maculose, white bands. Length 4 mm.

Male: Head about as wide as the pronotum; vertex nearly flat, feebly depressed, fore and hind margins nearly parallel, length two-thirds the width between the eyes; front one seventh longer than broad between the ocelli, sides strongly sinuated, the apex rather narrow; clypeus well widened apically, length nearly twice the least width, apex truncated and feebly emarginate. Loræ large, length twice their width, inner angles prominent, superior angles acute; cheeks wide, outer angles rounded; posterior edge of the pronotum quite strongly concave, wrinkles distinct.

Genital characters: Valve rather small and rounded at the apex; plates large, triangular, nearly three times the length of the valve, sides nearly straight, armed with about six spines, apex obtuse (Pl. I, fig. 20).

Color fulvous-brown, irrorate with yellowish, a line on the apex of the head, a spot near the base of the front, and a few nearly obsolete arcs below, clearer yellow. Elytra yellowish, or fulvous-brown, closely dotted with fuscous, the dots hardly forming reticulations, and marked with small ivory-white spots forming an obscure double basal band, a narrower curved band beyond the middle partly enclosing a larger round spot on the base of the second anti-apical areole, and an irregular broken band on the base of the apical areoles. Wings smoky, nervures brown. Eyes rufous.

Odenton, Md., August 1st, Uhler. Described from a single male example. This elegant little species cannot be confounded with any form now known. In dedicating it to our distinguished American Hemipterist, Prof. P. R. Uhler, I but slightly express my appreciation of his unfailing kindness and ready assistance extended to me in my hemipterological studies.

## 3. *Phlepsius strobi* Fitch.

*Bythoscopus strobi* Fitch, Cat. of Homop. N. Y. State Cab. p. 58, 1851; Trans. N. Y. State Agric. Soc. 1857, p. 739; Packard (after Fitch), U. S. Ent. Com. Bull. vii, p. 216, 1881; Fifth Rep. p. 802, 1890; Rathvon, in Mombert Hist. Lancaster County, Pa., p. 551, 1869; Walker, Cat. Homop. Ins. of the Brit. Museum, iii, p. 876, 1851.

*Phlepsius strobi* Van Duzee, "Psyche," v, p. 390, 1890.

Form a little stouter and the vertex shorter than in *irroratus*; fulvous, irrorate with darker; elytra fulvous-brown, twice banded with white. Length 4.5–6 mm.

Head about as wide as the pronotum; vertex short, but little longer at the middle than next the eye, apex rounded, anterior edge obtuse, disc slightly depressed before the apex; front broad, sides feebly sinuated below the antennæ, apex broad; clypeus broad, moderately constricted near the base, one-third lon-

ger than broad, its apex truncated. Loræ large, outer angles of the cheeks rounded; temples broad. Pronotum short and broad, about two and one-half times the length of the vertex; anterior edge nearly straight between the eyes, posterior feebly concave. Elytra broader apically than in *irroratus*.

Genital characters.—Male: Valve much shorter than the ultimate ventral segment, broad triangular, the apex obtuse; plates rather short, together forming a nearly equilateral triangle, their acute flaccid points recurved, and heavily fringed, edged with a row of stout bristles. Female: Last ventral segment (Pl. I, fig. 3) long, outer angles rounded, apex truncated, with a short blunt median tooth, differentiated by a shallow notch each side of the feeble central keel. Pygofers short, much narrowed apically, their acute tips surpassed by the oviduct, the sutural edges armed with stout white spines set on black dots.

Color pale testaceous, varying to fulvous, paler on the base of the scutellum and beneath. Head, pronotum and scutellum irrorate with pale fulvous or whitish, the pale color predominating on the head and basal disc of the scutellum; ocelli rufous; eyes rufous or brown. Beneath pale, legs without bands in the female. Males with the anterior and intermediate femora twice banded with pale brown, with a trace on the hind pair. Elytra white, clouded with fulvous on the base and with a broad brown band on the middle and another at the apex, the two latter coalescing and marked with a small white spot on the costa close to the apex and about three similar ones on the inner edge of the clavus; the brown areas closely and finely reticulated, a few coarse reticulations on the white areas, and the nervures brown; apex of the clavus fuscous. In the male the costa is marked with a row of small fuscous spots, two of which, near the apex, are larger. Wings slightly infuscated, nervures brown.

This seems to be one of the rarest species of this large genus, at least in the Northern States. Mr. Uhler's lot contains a typical example, a male, received by him from Dr. Fitch and two small specimens from Texas, and I have examined a female taken by Mr. E. B. Southwick, near New York City, in July, and another from Prof. D. S. Kellicott taken at Columbus, Ohio. The species may be readily distinguished by its fulvous tinge, banded elytra, and short, wide vertex. Dr. Fitch reports it on pine.

#### 4. *Phlepsius cinereus* n. sp.

Form of *irroratus*; vertex short, feebly angled, color whitish cinereous, elytra rather sparsely inscribed. Length 7 mm.

Head as wide as the pronotum; vertex moderately impressed across the disc, one-fifth longer at the middle than next the eye, apex scarcely angled, anterior edge very obtuse; front about one-fourth longer than broad; clypeus moderately widened toward the broad truncated apex, length nearly twice the greatest breadth; outer edge of the cheek nearly rectilinear either side of the prominent lateral angle, forming a wide margin beyond the rather small and narrow lora, and attaining the apex of the clypeus; temples broad. Pronotum about three times the length of the vertex, hind edge distinctly arcuated, lateral angles broadly rounded, wrinkles nearly obsolete, pits distinct. Elytral appendix narrow.

Genital characters.—Male: Valve broad triangular, a little longer than the last ventral segment, apex truncated; plates broad, twice the length of the valve,

apex broad, truncated, suture straight, submargin armed with long white spines. Pygofers shorter than the plates. Female: ultimate ventral segment (Pl. I, fig. 4) long, its apical edge bisinuated, with two short triangular teeth including a shallow median notch; pygofers equaling the oviduct in length, their numerous white spines set on brown dots.

Color: Female whitish cinereous, slightly tinged with fulvous on the head, irrorations pale and quite evenly distributed over the pronotum, vertex, and base of the front; apex of the face nearly clear, the sutures embrowned; scutellum obscurely varied with darker and exhibiting the ordinary marginal spots, and one on the disc of the apical area. Elytra white, reticulations rather few and pale, but evenly distributed. Wings white, slightly enfumed on their apical margin, nervures pale brown. Male more clearly marked than the female; face brown, closely dotted with pale and showing about three pale arcs on the front. Abdomen tinged with fulvous-brown and dotted with pale. Elytra with a few transverse fulvous clouds and closely inscribed with fulvous-brown. Wings smoky with fuscous nervures.

Texas; Aaron. Described from one male and three female examples received from Prof. Herbert Osborn. This pale form most closely resembles *spatulatus*, from which it differs by the characters of the clypeus, the wider head, the shorter, more depressed vertex, and the form of the ultimate ventral segment of the female, the lateral angles of which are more produced, and almost angled in *spatulatus*, and the median notch is narrower and more acute.

##### 5. *Phlepsius pallidus* n. sp.

Form of the preceding, whitish cinereous with fuscous irrorations, elytra obscurely banded. Length 7.5 mm.

Head a little wider than the pronotum; vertex as in the preceding species; front convex, length about one-seventh greater than the breadth, width at apex one-fourth that on the base; clypeus as in *cinereus*, but less expanded apically, and the edge of the cheek is more deeply excavated above the lateral angle than in that species. Pronotum nearly flat, almost two and a half times the length of the vertex, hind edge but feebly arcuated.

Genital characters.—Female: Last ventral segment (Pl. I, fig. 5) long, obtusely subtriangular, the broad apex emarginate, the sides interrupted by the small lobate lateral angles. Pygofers as in *cinereus*.

Color pale cinereous, tinged with fulvous beneath and on the disc of the pronotum; pronotal irrorations irregular on the anterior submargin, leaving from four to six white spots; vertex nearly free from irrorations, except near the eyes. Irrorations on the face fine, omitting a band on the base of the clypeus and crossing the middle of the loræ, another on the cheeks from the eyes to the base of the loræ, and on the front an interrupted median line and about four arcs. Femora strongly banded with brown. Elytra white, with a narrow sub-basal band, and about three coalescing bands beyond the middle, forming an obscure w, pale fulvous; reticulations few, except on the fulvous areas. Wings whitish hyaline, nervures fuscous, last ventral segment piceous, with a pale median line and lateral angles.

Texas; Aaron. Described from a single female example received from Prof. Osborn.



This species is certainly very close to the preceding, of which it may prove but a variety, but the form of the last ventral segment would seem sufficient to separate it until a more complete series can be procured from the South. It may be distinguished from our other species by the cinereous color, irregularly banded appearance of the elytra, the short white vertex, and the peculiar form of the last ventral segment of the female.

6. **Phlepsius fuscipennis** n. sp.

Form and size of *incisus* nearly; vertex short, pronotum strongly wrinkled; elytra broad, in the male fulvous-brown, with a few scattering white dots. Length 6—7 mm.

Head as wide as the pronotum; vertex short, length about one-third the width, and scarcely greater at the middle than next the eye; disc rather strongly impressed near the base; front broad, its length and breadth equal, sutures strongly oblique below the eyes; clypeus quadrangular, slightly widened apically, length twice the least breadth; loræ in width equal to the apex of the clypeus; cheeks wide, forming a broad margin beyond the loræ. Pronotum about three times the length of the vertex, posterior disc strongly wrinkled. Elytra rather broad, but little narrowed apically.

Genital characters.—Male: Valve about the length of the ultimate ventral segment, triangular, apex obtuse; plates broad, but slightly gibbous at base; sides feebly arcuated, and armed with about twelve stout white spines and a few soft hairs, apex obtuse, suture straight. Female: Last ventral segment (Pl. I, fig. 2) rather long; apical edge cut about as in *fulvidorsum*, but with the sinuses shallower and the lateral lobes more rounded, with their bases defined without by a distinct notch on the side of the segment at about its middle. Pygofer rather large; their tip obtuse, equaling the oviduct, and their suture feebly sinuated apically, the surface armed with about twelve stout spines.

Color.—Male: Head, pronotum and scutellum, closely and evenly dotted with pale yellow; legs and abdomen darker, sparsely dotted; connexivum, genital pieces, and median line of the venter, pale; hind edge of the vertex with a small pale spot each side of the middle, and there may be a similar one at tip; ocelli fulvous, placed on a pale spot. Elytra of a nearly uniform fulvous brown color, sometimes a little whitish toward their inner margin, closely inscribed with fine brown lines and marked by about six or eight small, round, white spots, two on the clavus the balance on apical and anti-apical areoles of the corium. Wings smoky-brown, iridescent, nervures fuscous. Female paler than the male; front showing two dots and about five arcs on each side, pale. Elytra dull whitish, clouded with fulvous-brown, finely and rather closely inscribed, the white spots larger and rather diffuse. Wings slightly suffused, iridescent; nervures strong, fuscous.

Described from fourteen male and two female examples taken by Mr. E. B. Southwick near New York City in July, and one pair received from Mr. Uhler taken the first September. This dark colored species may be distinguished by its broad form, short impressed vertex, strongly wrinkled pronotum, and the brown elytra of the males

spotted with white. Some males exhibit the pale arcs on the front, and the ocelli may be black.

7. **Phlepsius irroratus** Say.

*Jassus irroratus.*

- 1831, Say, Jour. Ac. Nat. Sci. Phil. vi, p. 308; Compl. Writ. ii, p. 384.
- 1835, Harris, Hitchcock, Geol. of Mass. 2d ed. p. 580.
- 1851, Fitch, Homop. N. Y. State Cab. p. 62.
- 1851, Walk., Homop. Brit. Museum, iii, pp. 894 and 1164.
- 1856, Fitch, Tr. N. Y. State Agric. Soc. xvi, p. 449.
- 1869, Rathvon, Mombert. Hist. Lancaster Co., Pa., p. 551.
- 1876, Packard, Guide to Study of Insects, p. 532.
- 1877, Uhler, Hayden's Bull., iii, p. 467.
- 1878, Uhler, Hayden's Bull., iv, p. 511.
- 1881, Packard, Bull. U. S. Ent. Comm. vii, p. 80 (*inornatus*).
- 1882, Lintner, First Rep. p. 331 (on apple).
- 1890, Smith, Cat. Ins. of N. J., p. 446.
- 1891, Packard, U. S. Ent. Com. 5th Rep. p. 324 (*inornatus*).

*Allygus irroratus.*

- 1884, Uhler, Standard Nat. Hist., ii, p. 245, fig. 310.
- 1889, Van Duzee, Can. Ent. xxi, p. 11.
- 1890, Osborn, U. S. Dept. of Agric. Div. of Ent. Bull. xxii, p. 30.
- 1890, Provancher, Nat. Can. xix, p. 248.
- Provancher, Faun. Ent. Can. iii, p. 286, pl. v, fig. 16.

*Phlepsius irroratus.*

- 1890, Van Duzee, Ent. Am. vi, p. 93.
- Van Duzee, Psyche, v, p. 389.

*Jassus testudinarius.*

- 1838, Burmeister, Gen. Ins. Jassus No. 4.
- 1851, Walker, Homop. Brit. Museum, iii, p. 891.
- 1877, Uhler, Hayden's Bull. iii, p. 467 (= *irroratus* Say).

Form rather slender, narrowed posteriorly, closely and evenly inscribed; vertex moderately produced, anterior edge obtuse. Length about 6 mm.

Head about as wide as the pronotum; vertex sloping, hardly depressed, about one-fifth longer at the middle than next the eye, apex very obtuse, anterior edge well rounded. Pronotum two and a half times the length of the vertex, hind edge almost straight, discal pits scattering over the entire surface, wrinkles somewhat obscure, a little irregular; scutellum scarcely as long as the pronotum, apex distinctly striate; front one-sixth longer than broad, well narrowed toward the apex, where its width is one-fourth that at the ocelli; clypeus scarcely widened apically, sides nearly straight, apex truncated; cheeks moderately surpassing the loræ and attaining the apex of the clypeus, outer angles not prominent. Elytra distinctly narrowed apically.

Genital characters.—Male: Valve large, as long as the ultimate ventral segment (Pl. I, fig. 21), apex rounded; plates narrow, sides strongly oblique at base, beyond subparallel to their obtusely pointed apex, suture depressed to near the base, outer margin sparsely ciliated with soft white hairs, within which are about six stout spines. Female: Ultimate ventral segment (Pl. I, figs. 6 and 7), about twice the length of the penultimate, deeply excavated each side of the broad triangular, subacute median tooth; on either side is a longer, nearly square lobe

the apex of which is more or less deeply cleft. Pygofers subacute, equaling the oviduct in length, with a few stout curved spines in about two rows.

Color pale fulvous, whitish on the disc of the pronotum, closely and quite regularly irrorate with coalescing fulvous-brown points; front darker, with a few irregular spots above, a round dot on each ocellus, and the extreme apex of the head whitish. Elytra white, more or less clouded with pale fulvous on the disc, closely and regularly inscribed with brown; nervures fuscous. Wings whitish hyaline, feebly iridescent, with strong brown nervures; tergum black, broadly margined with fulvous; vertex brown, with a narrow median and a broader lateral line and the connexivum pale. Legs pale, spotted with brown, thighs distinctly banded.

Described from numerous specimens from the following localities: Buffalo, N. Y., and vicinity, June–September; New Haven, Conn., June; Muskoka, Ont., July; Hamilton, Ont. (Johnson); Iowa and N. Carolina (Osborn); Maryland, October (Uhler); New Brunswick, N. J. (J. B. Smith).

This species is subject to but slight variation and may be readily identified by the characters of the genitalia. It is our most abundant species here in western New York, where it occurs throughout the season in weedy pastures and meadows, generally preferring the drier upland fields. Probably some of the references given above refer to other species.

The Harris collection contains a pair, ♂ and ♀, of this species taken Sept. 15, 1821, and determined by Say himself. Mr. Henshaw has very obligingly examined these for me. The abdomen of the ♂ was wanting. Of the ♀ he kindly made for me the outline sketch of the genital segments figured on the plate. This settles definitely the precise species described by Say, which could hardly have been done from the description. Specimens from northern localities generally have the lateral lobes of the last ventral segment of the female more deeply cleft than in those from localities south of New York State.

#### 8. *Phlepsius truncatus* n. sp.

Form of *irroratus*, but with the elytra a little wider and the color darker; ocelli large, black. Length 6 mm.

Head a very little wider than the pronotum; vertex a little longer than in *incisus*; length on median line one-fifth greater than next the eye; apex obtuse; surface moderately depressed across the middle, anterior edge obtuse. Pronotum somewhat less than three times the length of the vertex, hind edge feebly concave, discal pits and striæ as in *irroratus*; scutellum three-fourths the length of the pronotum, apical striæ distinct; front as in *incisus*; clypeus a little wider at base than in that species, its sides nearly straight. Elytra slightly narrowed toward their apex.

Genital characters: Male nearly as in *irroratus*; valve truncated at apex; plates narrow, their sides more oblique than in its ally, the ligulated tips proportionately shorter and more obtuse at apex. Female: Last ventral segment (Pl. I, fig. 8) longer, narrower, and more compressed over the base of the pygofer than in *irroratus*; apical angles well rounded, hind edge truncated across the middle, laterally with a feeble sinus on the oblique sides; pygofer a little more slender than in *irroratus*, moderately surpassed by the oviduct.

Color and marking of *irroratus*, the elytra are, however, more closely reticulated than in that species and the venter in the single female example before me is dull testaceous-brown with the apical segment and pygofer tinged with fulvous, the former with a black spot on the truncated apical margin, oviduct brown; ocelli blackish, large and conspicuous.

Described from one female and two male examples taken by Mr. W. J. Palmer, Jr., of this city, on Mt. Balsam, N. C., July 23, 1890. This species is closely allied to both *irroratus* and *incisus*, but the characters of the genitalia will serve to distinguish between them.

#### 9. *Phlepsius incisus* n. sp.

Form of *P. humidus* nearly, but smaller; proportionately broader and darker colored than *irroratus*; stout, vertex short triangular, subdepressed; surface closely and heavily irrorated and inscribed. Length 6—6.5 mm.

Head a very little wider than the pronotum; vertex one-fifth longer at the middle than next the eye, apex obtusely rounded, surface distinctly depressed, anterior edge acute. Pronotum about three times the length of the vertex, hind edge feebly concave, discal pits scattering, wrinkles obsolete, except a few traces toward the posterior margin; scutellum a little shorter than the pronotum, apical striae nearly obsolete; front one-seventh longer than broad, less narrowed apically than in *irroratus*, width at apex not quite one-third that at the ocelli; clypeus distinctly wider at apex than at base, sides straight from near the base to the broad, feebly excavated apex. Loræ broad, cheeks more broadly margining the loræ than in *irroratus*, the elytra proportionately broader and shorter, and furnished with a broader appendix than in that species, not narrowed apically.

Genital characters.—Male: Valve about as long as the last ventral segment, broad-triangular, apex subacute; plates broad, outer edge waved, feebly concave in the middle, apex broad and rounded, sutural edges slightly separated at base and overlapping a little near their apex, margins with a few short spines on their apical half. Female: Ultimate ventral segment (Pl. I, fig. 9) about twice the length of the penultimate, narrow, obtusely subtriangular, apex with a broad, deep, acute notch, the sides of which are a little arcuated; pygofer rather narrow, considerably exceeded by the stout oviduct, apex with a few stout spines.

Color testaceous brown, closely irrorate with pale fulvous or whitish, pleural pieces whitish, clouded on their discs with brown. Elytra with coarser reticulations than in *irroratus*, thus imparting a darker aspect to the whole insect; costal spots two to four. Legs strongly maculated; tergum blackish, the broad margin fulvous, irrorate with testaceous; venter dull fulvous, clearer on the median line and the edges of the segments, their submargins brown and the disc irrorate with the same color.

Described from five male and two female examples; Buffalo and vicinity, July and August; Ridgeway, Ontario, Aug. 7, 1886.

This is a larger, broader, darker colored species than *irroratus*, from which it may be distinguished by its short, depressed, sharp-edged vertex, the form of the clypeus and loræ, and especially by its very distinct genital characters.

10. **Phlepsius fulvidorsum** Fitch.

*Jassus fulvidorsum* Fitch, Hom. N. Y. State Cab., p. 62, 1852; Walker, Cat. Homop, iii, p. 894.

*Phlepsius fulvidorsum* Van Duzee, Psyche, v, p. 390, 1890.

Form of *P. humidus* nearly. Head, pronotum and scutellum soiled yellow, obscurely marked with fulvous-brown. Elytra white, faintly clouded with fulvous patches and rather irregularly inscribed. Length 6—7 mm.

Vertex nearly flat, tip slightly reflexed, length next the eye hardly more than one-half that on the median line, anterior edge subacute; ocelli large, placed rather distant from the eyes. Pronotum about twice the length of the vertex, hind edge a little more concave than in *irroratus*, pits numerous and conspicuous, especially across the middle of the disc, wrinkles obscure, surface minutely shagreened posteriorly; scutellum a little shorter than the pronotum, apical striæ obscure; front about one-fifth longer than broad, width at apex one-fourth that at the ocelli; clypeus quadrangular, but slightly widened apically, its sutures straight; outer angle of the cheeks rounded.

Genital characters.—Male: Valve shorter than the ultimate ventral segment, broad-triangular, apex rounded; plates more than twice the length of the valve, long-triangular, sides feebly concave, base moderately gibbous, apex obtuse, suture straight, submargin with about eight long stout spines. Female: Last ventral segment (Pl. I, fig. 10) long, apical edge rather deeply excavated either side of the small median notch, outer angles well produced and rounded, median line impressed nearly to the base. Pygofers rather narrow, hardly exceeded by the oviduct, the stout apical spines tipped with black.

Color: Head, pronotum, scutellum, commissural nervure of the elytra, connexivum, and all beneath soiled whitish yellow; vertex and pronotum obscurely irrorate with fulvous-brown; face pale brown, at least superiorly, dotted with pale yellow, front with three basal dots and about four lateral arcs pale; clypeus usually pale, with a median brown line; narrow margins of the ventral segments brown, the disc of the venter clouded with the same color with a central pale line. Last ventral segment of the female pale, with a black marginal lunule bounding the lateral sinuses. Legs with the usual marks clearly defined. Eyes mottled. Elytra ivory-white, varied with pale fulvous-brown, the fulvous areas arranged somewhat obliquely; reticulations rather coarse, costal spots not conspicuous. Wings smoky, with strong brown nervures.

This species has proved quite a puzzle to me. It occurs in two forms which I cannot consider specifically distinct. Of the form described above, which I believe to be the one described by Dr. Fitch, as it agrees in every particular with his short diagnoses, I have seen but three examples, one male and two females, taken by me on hemlock bushes at Colden, N. Y., about the first of August. The other form is smaller, darker in color, and has a shorter vertex;

the irrorations are more distinct on the head, pronotum and scutellum, and the elytra have a transverse white band, more or less clearly indicated, the ocelli also are placed nearer the eyes. The form of the facial pieces and of the female genitalia do not differ materially from those of the larger form. The male is as yet unknown to me, but I hardly think that when found it will establish this form as a distinct species. I would sooner consider *fulvidorsum* a more recent and still plastic species, as the individuals examined by me exhibit a wider variation among themselves than is common in this genus. Of this smaller form I have before me one example taken by myself at Northford, Conn., May 26, 1883; two examples taken by Mr. E. B. Southwick near New York City in June; one from Ames, Iowa, received from Prof. Osborn, and four received from Mr. Uhler; two of these were taken near Baltimore, Md., in September, and two are from Texas. Dr. Fitch reports it on pine.

**11. *Phlepsius punctiscriptus* n. sp.**

Allied to *humidus*, but smaller, with the vertex more pointed; color a uniform soiled white, closely dotted or inscribed with brown. Length 7 mm.

Length of vertex on the median line twice that next the eye, disc depressed, anterior edge subacute, apex obtusely pointed, a little calloused; front about one-third longer than broad at the ocelli, base impressed, quite strongly angled; clypeus well widened apically, apex truncated, the angles rounded; loræ not so wide as the base of the clypeus; cheeks rounded without, not perceptibly angled, forming a broad margin beyond the loræ. Pronotum twice the length of the vertex, anterior submargin with a few impressed, irregular areas, wrinkles inconspicuous, discal pits distinct.

Genital characters.—Female: Ultimate ventral segment (Pl. I, fig. 11) scarcely twice the length of the penultimate, posterior margin produced medially beyond the improminent lobate lateral angles, its apex acutely notched, the lateral sinuses shallow. Pygofer short and stout, apex truncated with an oval aperture, slightly exceeded by the oviduct, suture arcuated toward the apex.

Color soiled whitish, tinged with fulvous on the scutellum; whole insect, omitting the pleural pieces, connexivum and elytra, quite uniformly inscribed with fulvous brown; tip of the vertex white, behind which is an angular brown area, sometimes extended toward the eyes, and formed by the coalescence of the ordinary vermiculate inscriptions; front darker than the lower part of the face, with an abbreviated median line and a trace of the lateral arcs, pale; cheek with a distinct black point near the outer angle of the lora; venter with a nearly obsolete pale median line. Legs with but traces of the ordinary brown marks. Elytra faintly clouded with fulvous across their middle and at their apex, and dotted with fine brown points, more numerous on the fulvous areas, where they are mostly arranged in irregular lines, representing the inscriptions characteristic of this genus; nervures slender, brown. Wings whitish, with brown nervures.

Texas. Described from two female examples received from Mr.

Uhler. This is a pale species, differing from all our other species, except *Uhleri*, in its regularly dotted elytra. In the form of the last ventral segment of the female it corresponds with *humidus*, but the lateral angles are less prominent. The male is unknown to me.

12. **Phlepsius apertus** n. sp.

Form of *incisus* nearly, vertex proportionately longer. Elytra white, rather sparsely reticulated and marked with two ill-defined fulvous bands and sometimes a basal cloud. Length 6.5 mm.

Head as wide as the pronotum ♂, or a little wider ♀. Vertex nearly one-third longer at the middle than next the eye, disc feebly depressed near the hind margin, apex obtuse, anterior edge subacute. Pronotum hardly more than twice the length of the vertex, discal pits scattering, wrinkles distinct; scutellum four-fifths the length of the pronotum, apical striæ distinct and irregular in the ♂, or almost obsolete, ♀. Length and breadth of the front subequal, width at apex one-third that at the ocelli; clypeus rectangular, width three-fourths the length, in the ♀ a little widened apically; cheeks as in *irroratus*.

Genital characters.—Male: Valve about one-fifth longer than the last ventral segment, triangular, apex truncated; plates broad, basally the sides are oblique and nearly rectilinear, on the apical one-fourth subparallel, to the rounded divergent tips; marginal pile and submarginal row of stout spines becoming obsolete before the apex. Female: Ultimate ventral segment (Pl. I, fig. 12) nearly square, broadly excavated on the middle nearly to the base, the sides of the sinus waved, internal angles of the lateral lobes produced in a short acute tooth either side of the broad sinus, the outer angles rounded. Pygofers moderately exceeded by the oviduct, armed toward their apex with numerous spines.

General color paler than in *incisus*. Head and scutellum tinged with fulvous; anterior edge of the vertex with its apical field white, marked with a brown cloud either side of the middle line. Elytra ivory white; a fulvous cloud crosses the middle, another occupies the antiapical areoles, and sometimes there is a third on the base; reticulations few on the white areas, finer and more numerous on the fulvous clouds. Wings faintly smoky, iridescent, nervures strong, brown. Legs and abdomen showing the normal markings; sinus of the last ventral segment of the female edged with black.

Described from one female and three male examples. One received from M. Provancher, taken near Quebec, the others taken by myself near Muskoka Lake, Ontario, in July, 1888.

This species is readily distinguished from *irroratus*, *truncatus* and *incisus*, its nearest allies, by the longer vertex, whiter, more or less distinctly banded elytra, and the characters of the genitalia.

13. **Phlepsius humidus** n. sp.

Large, form broad and stout; vertex well produced and depressed, anterior edge thin; elytra closely and finely reticulated. Length 7—7.5 mm.

Vertex at least one-half longer at the middle than next the eye, apex obtusely angled, anterior edge acute; front one-fourth longer than broad, sutures arcuated above the antennæ, below straight; clypeus moderately widened toward the truncated apex; outer angles of the cheeks well rounded. Pronotum twice the

length of the vertex, pits and transverse striæ rather distinct. Elytra broad, but little narrowed apically.

Genital characters.—Male: (Pl. I, fig. 22) Valve broad, triangular, a little longer than the last ventral segment; apex obtuse, or sometimes subacute; plates broad, rather strongly gibbous at base, sides moderately arcuated, apex subacute, submargin armed nearly to the apex with stout, pale spines, set on brown dots. Female: Last ventral segment (Pl. I, fig. 13) biarcuate, as in *fulvidorsum*, *fuscipennis*, etc., but more strongly produced on the middle, the blunt, more or less deeply notched, apex generally much surpassing the subacute lateral angles. Pygofers stout, shorter than the oviduct.

Color fulvous-brown, paler on the vertex, anterior edge of the pronotum and base of the scutellum, closely dotted with pale soiled yellow, the dots frequently coalescing, especially on the vertex; front marked with about four pale arcs, above which, on each side, is a geminate pale spot. Legs strongly marked. Elytra fulvous-brown, obscurely varied with whitish areas, forming three indistinct, pale, transverse bands; a spot at the apex of the claval nervures and about three on the costa, fuscous; nervures brown, or at least dotted with brown, the close, fine reticulations broken more or less into dots. Wings enfumed, nervures strong, brown; venter with the pale central line distinct, especially in the male, connexivum broadly pale.

Described from numerous examples of both sexes. This is the largest northern species of *Phlepsius* known to me. It is not uncommon about Buffalo from the last of July to the middle of September in low swampy meadows and other humid situations. I have also taken it near Muskoka Lake, Ontario, and it is the "large variety" mentioned in my list of Hemiptera from that locality (Can. Ent. xxi, p. 11, 1889) under the name *Allygus irroratus* Say. Mr. Uhler's material contains two or three examples labeled "Delta R. R., September 15th." Mr. E. B. Southwick also has taken it near New York City.

Its broad depressed form will distinguish this from most of our other species. The elytra are wide and considerably reflexed at their tips, and the anterior edge of the vertex is thin. The form of the last ventral segment of the female varies in being quite strongly produced on the middle with the apical notch at times almost obsolete.

#### 14. *Phlepsius nebulosus* n. sp.

Form of *incisus*, but larger. Head obtusely angled; elytra obliquely mottled with fuscous. Length 8.5 mm.

Head a little wider than the pronotum; vertex nearly horizontal, one-fourth longer on the middle than next the eye, apex rounded, edge acute, disc strongly depressed; front one-fifth longer than broad, sutures straight below the antennæ; clypeus quadrangular, very slightly widened apically; length nearly twice the width; cheeks wide, forming a narrow margin below the loræ, and slightly surpassing the clypeus. Pronotum nearly twice the length of the vertex, hind edge subangularly excavated, surface strongly pitted and wrinkled; scutellum in length equal to the pronotum.



Genital characters.—Male: (Pl. I, fig. 23) Valve broad-triangular, in length equal to the last ventral segment, apex rounded; plates ligulate, three times the length of the valve, hardly approximate, their moderately diverging tips obtuse much surpassing the pygofers, their base but feebly gibbous, submargins with a few short white spines. Female: Last ventral segment (Pl. I, fig. 14) of the general form found in the preceding species; long and broad, median notch small, rounded lateral angles moderately produced; pygofers short and broad, their narrow apex well surpassed by the oviduct.

Color whitish fulvous, clearer on the head. Head and pronotum quite evenly irrorate with fulvous-brown, becoming fuscous on the disc of the pronotum; scutellum pale, with the arcuated impressed line and apical striæ distinct, base closely punctured and obscurely irrorate. Elytra rather closely and evenly inscribed, discal areoles of the corium mottled with fuscous, forming about two or three hardly apparent oblique bands, or merely a longitudinal cloud; front with about four distinct arcs; plates of the male pale, except their outer margins.

Described from one male and two female examples. Of one pair received from Mr. Uhler the male is labeled "Dacota, Rothauer," and the female "Mouse R." The other female was received from Prof. Osborn, and is without a label. This specimen is slightly larger and paler than Mr. Uhler's material. *P. nebulosus* can be readily distinguished from our other large species by the form of the vertex and of the plates of the male, and by the peculiar maculation of the elytra.

The female example from Mouse River quite strikingly resembles our *Aphrophora parallela* Say.

15. **Phlepsius spatulatus** n. sp.

Form rather broad and depressed; vertex brown, with the base and apex white, including two brown apical spots. Length 7.5—9.5 mm.

Head narrower than the pronotum; vertex flat, one-fourth longer at the middle than next the eye, apex rounded, anterior edge obtuse; front one-third longer than broad, sides straight from the antennæ to the middle of the loræ, where the width is one-third that at the base, suture between the clypeus and front obsolete, or nearly so; clypeus large, nearly spatulate in form, least width two-thirds that at the truncated apex, outer angles rounded; cheeks broad, outer edges nearly straight below the pronounced median angle, above arcuated, apically forming a wide margin beyond the loræ. Pronotum about twice the length of the vertex, nearly flat, wrinkles distinct, hind edge very feebly arcuated.

Genital characters.—Female: Last ventral segment (Pl. I, fig. 15) rather short, apical edge more or less produced each side in a large triangular lobe, the included concavity rounded, with a narrow, acute central notch, either side of which there may be a short acute tooth. Pygofers broad oval, their acute apex a little exceeded by the oviduct.

Color pale cinereous-testaceous tinged with fulvous on the head, but in some examples the color is deepened almost to a fulvous-brown. Elytra regularly and finely inscribed; vertex pale or whitish, with a broad, transverse, brown band between the eyes. This band is irrorate with pale, its anterior edge is straight, posteriorly it sends a branch to the base of the vertex each side of the middle

and from its outer angles a thin line to each ocellus, and before it is connected with a pair of brown spots in the white apical area; face pale, marked with brown on the disc of the cheeks, loræ and clypeus, and on the front are about eight brown arcs and a few punctures; antennal pit and a spot at the lower angle of the eye fuscous. Prothorax with a brown line below the calloused lateral margin. Abdomen with the base of the dorsal segments and a few marks below, brown. Wings slightly enfumed, nervures fuscous.

Described from five examples. One of these, wanting the abdomen, seems to be a male, the others are females. "Texas, Aaron," three examples; and "Ames, Iowa;" one example, received from Mr. Osborn. One example without locality is in the lot sent by Mr. Uhler. Two of Mr. Osborn's specimens are larger and fulvous-brown in color, and might readily be mistaken for *Gyponas*.

16. **Phlepsius ovatus** n. sp.

Form broad ovate, elytra short and broad, whole insect rather clearly and evenly marked. Head narrow, obtusely pointed. Length 5 mm.

Female: Head narrow, vertex horizontal, convex, not depressed on the disc, length at the middle one-half greater than next the eye, apex obtuse, passage to the front rounded; front one-third longer than broad, sutures arcuated below the antennæ, apex a little excavated; clypeus long, widened toward either end, base obtusely angled, apex truncated; loræ large, inner angle rounded; cheeks broad, forming a wide margin beyond the loræ, outer angles prominent. Pronotum short, hind edge nearly straight; posterior disc distinctly wrinkled; pits large, confined to a broad arcuated band parallel to the anterior margin; transverse impressed line of the scutellum straight and conspicuous. Elytra broad and short, but little surpassing the abdomen: appendix broad.

Genital characters.—Ultimate ventral segment (Pl. I, fig. 16) short, broadly excavated on the apical margin, with a sinuated median notch reaching nearly to its base, outer angles rounded, obtuse. Pygofer broad and short, strongly narrowed apically, but moderately exceeded by the oviduct; apex with a few stout pale spines.

Color soiled yellowish white; vertex with two spots on the anterior margin near the apex and a broad transverse band on the disc fulvous, with vermiculate brown marks, an extension of which touches the posterior margin on either side near the eye, central impressed line short edged with white; front fulvous-brown, coarsely irrorate with pale dots forming a broad median band and about six lateral arcs; clypeus with two brown spots at base and a few smaller ones along either side of the median line; cheeks and loræ with a few fulvous clouds and brown marks, aggregated beneath the antennæ; pectoral pieces piceous, edged with pale, and a large piceous spot covers the apex of the propleura. Thighs strongly banded; venter fulvous, irrorate with brown, median line and lateral angles of the last ventral segment white; tergum fuscous, with large angular marginal white spots. Pronotum with vermiculate brown marks, nearly obsolete on the posterior disc; basal field of the scutellum with about two brown spots and a few whitish marks. Elytra fulvous, coarsely and evenly inscribed with fuscous; costa mostly white, alternated with brown spots, about the apical four larger, commissural margin irregularly white; disc with about four paler spots, one of which is on the claval suture.

Texas. Described from two female examples received from Mr. Uhler. This species may be readily distinguished from its allies by its short oval form and peculiar markings, as well as by the genital characters. Another somewhat larger species, agreeing with *ovatus* in form, is represented in my collection by a single example in which the abdomen is wanting, and consequently it cannot be characterized. It was presented to me by Mr. W. J. Palmer, Jr., of this city, who captured it in South Dakota.

17. **Phlepsius excultus** Uhl.

*Jassus excultus* Uhl., Bull. U. S. Geol. and Geog. Surv. iii, p. 467, 1877.

Ovate oblong, rather pointed before; elytra slightly widened and a little recurved at tip; ferruginous above; elytra iron-gray, with a trilobate white mark along the commissure. Length about 7 mm.

Head narrower than the pronotum; vertex obtusely pointed, one-third longer on the middle than next the eye, disc not depressed, passage to the front rounded; front about one-third longer than broad; clypeus rather long, widened either way from near its base, length about twice the greatest breadth, basal suture convex, apex concave; loræ large; cheeks well angled opposite the base of the clypeus. Pronotum prominently wrinkled on the posterior disc, pits large and shallow, segregated near the calloused anterior submargin. Elytral appendix rather wide.

Genital characters.—Male: Valve small and rounded; plates large, regularly triangular, about three times the length of the valve, outer edges almost rectilinear, submargin armed with numerous long stout spines, suture straight. Female: Last ventral segment (Pl. I, fig. 17) short, broadly excavated on the apical margin nearly or quite to its base, thus exposing the base of the ovipositor with its overlapping plates, lateral angles either triangularly produced or more or less truncated. Pygofer rather broad basally, armed with stout spreading spines toward the apex, which is a little exceeded by the oviduct.

Color: Vertex, pronotum and scutellum ferruginous yellow, in fully colored examples obscurely irrorate with pale brown; vertex with a few irrorations either side of the apex and a brown point on the hind edge near each eye; front of the pronotum with about four brown points, sometimes produced posteriorly as vermiculate lines; face brown, darker above, quite evenly irrorate with pale, but generally exhibiting a few darker arcs on the front; femoral brown bands broad, irrorate, sometimes extended over the whole surface omitting the superior edge and knee; venter brown, uniformly irrorate with pale. Elytra whitish testaceous, sometimes tinged with fulvous, closely and evenly inscribed with brown, producing an iron-gray appearance, especially in the darker examples; commissural margin broadly ivory-white, edged with blackish and trilobed by the intrusion of this black edge at the tips of the claval veins; costa alternated with brown and white; apical areoles sometimes infuscated.

Apparently a common species and widely distributed in the Southern States. I have examined material from North Carolina, Texas, Georgia and Arizona, and Mr. Uhler reports it from Texas, Georgia, Florida, Maryland, New Jersey, Pennsylvania, New York,

Massachusetts, Illinois, Minnesota, Kansas, Colorado and N. Mexico.

Through correspondents I have received examples of this species labeled *Jassus scalaris* and *infumatus* Uhl., probably manuscript names employed by Mr. Uhler for this species prior to his publication of its description.

18. **Phlepsius superbus** Uhl., M. S.

Allied to the preceding species, but without the white lobate commissural line; cheeks wrinkled. Length 6.5 mm.

Head narrower than the pronotum; vertex nearly flat, passage to the front and the apex rounded; length on the middle line about one-third greater than next the eye; front rather long, strongly narrowed apically, length one-seventh greater than the breadth; clypeus long, a little constricted near the base, length twice the greatest width, base strongly arcuated, apical edge concave; loræ long and narrow, feebly angled within; cheeks broad, edge rectilinear from the prominent angle to the apex of the clypeus; surface exterior to the outer line of the loræ strongly longitudinally wrinkled. Pronotum twice the length of the vertex, hind edge feebly arcuated, whole disc strongly wrinkled, pits obscure or wanting. Elytra shorter, more strongly narrowed apically and less reflexed than in *excultus*.

Genital characters.—Male: (Pl. I, fig. 24) Valve small and rounded; plates short and broad, subquadrangular, scarcely longer than the valve, reaching to about the middle of the pygofer; apical margin slightly produced at the sutural angle, outer submargin with a row of stout spines placed well in from the edge. Pygofer long, triangular, narrowed apically, covered nearly to the plates with stout dusky spines, suture straight. Female: Last ventral segment (Pl. I, figs. 18 and 19) almost as in *excultus*, but the lateral angles are more produced and subacute, the sides of the broad triangular sinus are nearly straight, covering the plates in the specimen before me, but leaving the long pointed valve well exposed. Pygofer short and stout, their blunt apex slightly exceeded by the oviduct and armed with numerous stout spines.

Color: Venter, pronotum and scutellum, dull fulvous, closely irrorate with brownish; scutellum with two longitudinal white lines; face fulvous-brown, darker on the front, irrorate with pale, or dull yellow irrorate with brown, and with about eight heavy fuscous frontal arcs, anterior coxæ tipped with pale; venter brown, irrorate with pale and with an interrupted pale median line bifurcated beyond the third segment. Elytra dull white, closely and evenly inscribed with fuscous and marked with the usual brown spots on the costa and on the claval nervures. Wings white, nervures brown.

North Carolina and Arizona. Described from one female and two male examples. Another female in my collection differs from this species only in the form of the last ventral segment, which is entirely wanting, except a small area of the lateral angles. The large, pointed valve and the broad subquadrangular plates are thus entirely exposed. I am inclined to consider this a mere monstrosity, and not as indicating a specific or even varietal rank.

This species may be distinguished from *excultus* by its narrow,

long loræ, wrinkled cheeks, the absence of the white commissural mark on the elytra, and especially by the form of the male genitalia. The pronotal pits are apparent in but one of my specimens and here they are small.

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## EXPLANATION OF PLATE I.

Fig. 1. *Phlepsius latifrons* ♀; ultimate ventral segment.

- |   |     |   |   |   |   |
|---|-----|---|---|---|---|
| " | 2.  | " | <i>fuscipennis</i> ♀;   | " | " |
| " | 3.  | " | <i>strobi</i> ♀;  | " | " |
| " | 4.  | " | <i>cinereus</i> ♀;  | " | " |
| " | 5.  | " | <i>pallidus</i> ♀;  | " | " |
| " | 6.  | " | <i>irroratus</i> ♀ (typical); ultimate ventral segment and pygofer. |   |   |
| " | 7.  | " | <i>irroratus</i> ♀ (variety); ultimate ventral segment.             |   |   |
| " | 8.  | " | <i>truncatus</i> ♀;   | " | " |
| " | 9.  | " | <i>incisus</i> ♀;   | " | " |
| " | 10. | " | <i>fulvidorsum</i> ♀;   | " | " |
| " | 11. | " | <i>punctiscriptus</i> ♀;  | " | " |
| " | 12. | " | <i>apertus</i> ♀;   | " | " |
| " | 13. | " | <i>humidus</i> ♀;   | " | " |
| " | 14. | " | <i>nebulosus</i> ♀;   | " | " |
| " | 15. | " | <i>spatulatus</i> ♀;  | " | " |
| " | 16. | " | <i>ovatus</i> ♀;  | " | " |
| " | 17. | " | <i>excultus</i> ♀;  | " | " |
| " | 18. | " | <i>superbus</i> ♀;  | " | " |
| " | 19. | " | <i>superbus</i> ♀ (variety);  | " | " |
| " | 20. | " | <i>Uhleri</i> ♂; genital pieces.                                    |   |   |
| " | 21. | " | <i>irroratus</i> ♂;   | " |   |
| " | 22. | " | <i>humidus</i> ♂;   | " |   |
| " | 23. | " | <i>nebulosus</i> ♂;   | " |   |
| " | 24. | " | <i>superbus</i> ♂;  | " |   |

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